

## 1.6 Operating with NMEA

The ST60 Multi instrument can provide data communication between SeaTalk and NMEA when the appropriate connections are made, and supports NMEA 0183 compatible products.

### SeaTalk to NMEA 0183

Data from SeaTalk is transmitted to the NMEA output port every 2 seconds. The data types and NMEA headers are:

Data	NMEA Header
Depth	DBT
Heading, deviation and variation	HDG
Magnetic heading	HDM
Water temperature	MTW
Water speed and heading	VHW
Wind speed and angle	MWV

### NMEA to SeaTalk

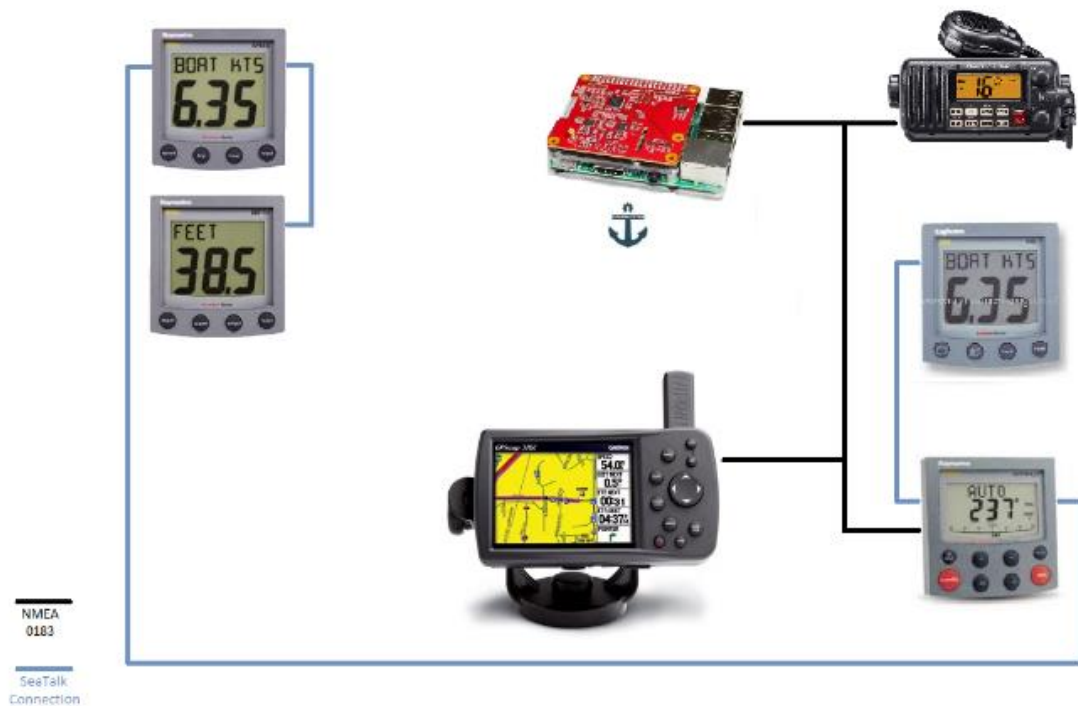
The ST60 Multi instrument decodes certain data from NMEA when available, and if the respective data is not already present on SeaTalk, transmits the decoded data to SeaTalk. The data types and NMEA headers are:

Data	NMEA Header
XTE, Waypoint identifier, Bearing & distance to waypoint	APB
Bearing & distance to waypoint	BWC
Bearing & distance to waypoint rhumb line	BWR
Latitude and longitude	GLL
Time, latitude, longitude, satellites tracked & HDOP	GGA
Cross track error	MWV or XTE
Navigational information	RMB
Time, date, lat, long, COG & SOG	RMC
COG and SOG	VTG

Raymarine ST60 Multi Manual <http://www.c470.jerodisys.com/470Lib/st60mult.pdf>

Raymarine ST4000 Manual <https://nyborg-motorbaadklub.dk/onewebmedia/ST4000+%20Wheel%20and%20Tiller%20OwnerHandbook.pdf>

Our setup with our GPS as the NMEA talker and the ST4000 Autohelm, DSC Radio, and OpenPlotter as a listeners on the NMEA network.



We'll probably reconfigure this to add a NMEA out stream from OpenPlotter to the Multi and make the GPS standalone backup. I believe we'll need to set up rules on what NMEA sentences Openplotter sends out on the so that Openplotter is not creating an endless loop repeating the information it is receiving.